

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 09/848,402

IN THE CLAIMS:

Listing of Claims:

1.-14. (Canceled)

15. (Currently Amended) Passenger detector comprising

a flexible support made of an insulating fabric,

at least two electrode structures applied on said insulating fabric at a distance from each other, each of said electrode structures comprising a lower surface and an opposing upper surface, said lower surface being in contact with said insulating fabric, and

a layer of semiconducting material applied on top of said electrode structures in an active zone of said detector, said layer of semiconducting material being arranged in intimate contact with said upper surfaces of said electrode structures and having an internal resistance that varies with a compression deformation of said layer induced by a passenger's presence when said detector is in use and which compression provides for a detecting of the passenger relative to the active zone, and wherein said opposing upper surfaces represent an upper extremity of said electrode structures and said applied layer of semiconducting material is applied to the upper extremity of said electrode structures, and wherein said layer of semiconducting material comprises a conducting elastomer, granulated or non-granulated, which is stuck on said electrode structures, and wherein the layer of semiconducting material is divided into several zones; said zones being arranged at different places on said electrode structures, thus defining several active zones of said passenger detector.

16. (Original) Passenger detector according to claim 15, wherein said electrode structures are printed on said insulating fabric.

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17. (Original) Passenger detector according to claim 16, wherein said layer of semiconducting material comprises a semiconducting ink which is printed on said electrode structures.
18. (Canceled)
19. (Previously Added) Detector according to Claim 15, wherein said insulating fabric is a woven fabric.
20. (Previously Added) Detector according to Claim 15, wherein said insulating fabric is a non-woven fabric.
21. (Previously Added) Detector according to Claim 15, wherein said electrode structures are deposited on said insulating fabric.
22. (Previously Added) Detector according to Claim 15, comprising a metallic layer, which is deposited on said insulating fabric, wherein said electrode structures are engraved or etched in said metallic layer.
23. (Canceled)
24. (Canceled)
25. (Previously Added) Detector according to Claim 15, further comprising a protective layer applied onto said electrode structures and said layer of semiconducting material.
26. (Previously Added) Vehicle seat comprising at least one passenger detector according to Claim 15.
27. (Previously Added) Vehicle seat according to Claim 26, wherein said passenger detector is integrated into the surface of the seat.
28. (Previously Added) Vehicle seat according to Claim 26, wherein said passenger detector is integrated into the into the back of the seat.

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29. (Previously Presented) Vehicle seat according to Claim 26, wherein said passenger detector is integrated into the head-rest.

30. (Currently Amended) Passenger detector having a plurality of active zones, said detector comprising

a flexible support made of an insulating fabric,

at least two electrode structures applied on said insulating fabric at a distance from each other, each of said electrode structures comprising a lower surface and an opposing upper surface, said lower surface being in contact with a supporting surface of said insulating fabric,

a layer of semiconducting material, said layer of semiconducting material having an internal resistance that varies with a compression deformation of said layer induced by a passenger's presence when said passenger detector is in use, said layer of semiconducting material being divided into several zones, each of said zones being applied in one of said active zones of said detector and being stuck on said upper surfaces of said electrode structures and remains so as to remain in a continuous state of intimate contact with said electrode structures when said layer is in a deformed and in a non-deformed state, said plurality of active zones being arranged in a pattern and providing for passenger detection relative to said zones upon compression induced by the passenger's presence, and wherein said insulating fabric is one of a knitted, woven and fiber based non-woven fabric.

31. (Currently Amended) A passenger detector, comprising:

a flexible support made of an insulating permeable material having a first surface and a second surface;

first and second electrode structures, with each of said electrode structures having a bottom electrode surface in intimate contact with the first surface of said flexible support and an

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upper electrode surface, and said electrode structures being spaced at a distance from each other on the first surface of said flexible support;

a plurality of active sensor zones provided on the first surface of said flexible support, said active sensor zones being defined by divided zones of a layer of semiconducting material with the semiconducting material having an internal resistance that varies with compression deformation of the layer of semiconducting material induced by a passenger's presence when said detector is in use, each divided zone being spaced apart on said first surface, and the semiconducting material of each of the divided zones being stuck to and in continuous intimate contact with the upper surface of said first and second electrode structures and in continuous intimate contact with the first surface of said flexible support, and said zones being arranged for sensing presence of a passenger influencing said flexible support by inducing a compression force on said semiconducting material and varying the internal resistance of the semiconducting material, and wherein said semiconducting material is a conducting elastomer stuck on to said electrode structures and the first surface of said flexible support.

32. (Currently Amended) A passenger detector, comprising:

a flexible support made of an insulating permeable material having a first surface and a second surface;

first and second electrode structures, with each of said electrode structures having a bottom electrode surface in intimate contact with the first surface of said flexible support and an upper electrode surface, and said electrode structures being spaced at a distance from each other on the first surface of said flexible support;

a plurality of active sensor zones provided on the first surface of said flexible support, said active sensor zones being defined by divided zones of a layer of semiconducting material

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with the semiconducting material having an internal resistance that varies with compression deformation of the layer of semiconducting material against an underlying electrode, each divided zone being spaced apart on said first surface, and the semiconducting material of each of the divided zones being stuck to and in continuous intimate contact with the upper surface of said first and second electrode structures and in continuous intimate contact with the first surface of said flexible support, and

~~The passenger detector of claim 31~~ wherein said flexible support, on which both the electrode structures and semiconducting material are deposited, represents, in an integrated passenger detector arrangement, a sole contact and supporting sheet for the electrodes and semiconducting material, and wherein a compression of the semiconducting material, induced by a passenger, provides for passenger detection relative to active zones subject to the compression.

33. (Previously Added) The passenger detector of claim 31 wherein said flexible support is a sheet of fabric.

34. (Previously Added) The passenger detector of claim 31 wherein said flexible support is a sheet of woven fabric.

35. (Previously Added) The passenger detector of claim 31 wherein said flexible support is a sheet of non-woven material comprising insulating fibers.

36. (Previously Added) The passenger detector of claim 31 wherein said semiconducting material comprises a semiconducting ink which is in intimate contact with the electrode structures and the first surface of said flexible support by way of a printing application.

37. (Previously Added) The passenger detector of claim 31 wherein said semiconducting material is a conducting elastomer print deposited ~~or stuck~~ on to said electrode structures and the first surface of said flexible support.

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38. (Previously Added) The passenger detector of claim 31 wherein said semiconducting material is in intimate contact with said electrode structures so as to form a plurality of closed and sealed active sensor zones.
39. (Previously Added) The passenger detector of claim 31 wherein said electrode structures are printed on said flexible support.
40. (Previously Added) The passenger detector of claim 31 wherein said electrode structures are portions of a deposited metallic layer subjected to an engraving or etching process.
41. (Previously Added) The passenger detector of claim 31 wherein the semiconducting material is of a type which results in a decrease in resistance in an active zone of the detector upon compression of a portion of the semiconducting material covering an electrode structure in a dividing zone against a supporting surface of the electrode structure.
42. (Canceled)
43. (Canceled)